

REMARKS/ARGUMENTS

These remarks are made in response to the Office Action of September 21, 2007 (Office Action). As this response is timely filed within the 3-month shortened statutory period, no fee is believed due. However, the Examiner is expressly authorized to charge any deficiencies to Deposit Account No. 50-0951.

In the Office Action, Claims 9, 21, and 25 were rejected under 35 U.S.C. § 112, second paragraph. Claims 1, 2, 8, 9, 13, 14, 20, and 25 were objected to. Claims 1-3, 8-10, 13-15, 20-22, 25, and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,864,814 to Yamazaki (hereinafter Yamazaki) in view of U.S. Patent 5,842,167 to Miyatake, *et al.* (hereinafter Miyatake), and further in view of U.S. Patent 5,875,427 to Yamazaki (hereinafter Yamazaki 2) and U.S. Patent 7,043,433 to Hejna, Jr. (hereinafter Hejna).

As an initial matter, Applicants wish to express their gratitude for the Examiner's having suggested language for overcoming the stated claim objections and rejections under 35 U.S.C. § 112. Applicants have incorporated in the appropriate claims the exact language suggested by the Examiner. Accordingly, Applicants respectfully request that the objections and rejection under 35 U.S.C. § 112 be withdrawn.

Although Applicants respectfully disagree with the remaining rejections, Applicants nevertheless have amended certain claims so as to expedite prosecution of the present application by emphasizing certain aspects of the invention. Applicants respectfully note, however, that the amendments are not intended as, and should not be interpreted as, the surrender of any subject matter. Accordingly, Applicants respectfully reserve the right to present the original version of any of the amended claims in any future divisional or continuation applications from the present application.

Claim Amendments

In particular, Applicants have amended independent Claims 1, 13, and 25. In general, Applicants' invention is directed to making debugging and tuning of applications for speech processing more effective and efficient. (See, e.g., Specification, paragraph [0009], lines 3-8, and paragraph [0017], lines 1-12.)

As readily understood by those of ordinary skill in the art, many of the modern techniques for processing speech incorporate statistical models. In the context of concatenation-based text-to-speech, as well as other other speech processing systems, the statistical models are often based upon the maximum-likelihood criterion for model training and speech generation, hidden Markov models, and other statistical optimizing techniques. A common feature of many, if not all, such statistical optimizing techniques is the concept of search cost functions. A search cost function, in general, is typically based on weights that can be varied so as to adjust the search cost function according to an optimization criterion.

One aspect of the present invention is the presentation of adjustable and non-adjustable configuration parameters, which can be contained in a configuration file utilized by a text-to-speech system. (See, e.g., paragraph [0023], lines 1-5; see also paragraph [0033], lines 3-11, and paragraph [0010], lines 3-6.) As amended, Claims 1, 13, and 25 recite that included among the configuration parameters are weights that can be varied so to adjust one or more search cost functions. (See, e.g., Specification, paragraph [0023], lines 5-8.) These weights can include, for example, one or more pitch cost weights. (See, e.g., Specification, paragraph [0023], lines 7-8.) Likewise, the weights can include one or more duration cost weights. (See, e.g., Specification, paragraph [0023], lines 7-8.)

The claim amendments, as discussed herein, are fully supported throughout the Specification. (See, e.g., Specification, paragraph [0023], lines 1-11; paragraph [0033],

lines 3-11; and paragraph [0010], lines 3-6.) Accordingly, no new matter has been introduced by virtue of any of the claim amendments presented.

The Claims Define Over The Cited References

As already noted, independent Claims 1, 13, and 25 were each rejected as being unpatentable over Yamazaki, in view of Miyatake and Yamazaki 2, and further in view of Hejna. Yamazaki is cited as disclosing the display of waveforms corresponding to synthesized audio, an original recording, and related parameters. Miyatake is cited as disclosing the generation of synthesized audio from received textual input.

Yamazaki 2 is cited as disclosing the automation of certain steps for generating a phonetic unit label from received "phoneme string information." Hejna is cited as suggesting the highlighting of a displayed original recording.

With respect to the parameters utilized in Yamazaki and Yamazaki 2, as noted in the Office Action, Yamazaki presents and allows a user to work with different pitch patterns, changes of pitch, and velocity values indicating volume. (See, e.g., Yamazaki, Col. 25, lines 17-32 and 61-67; Col. 23, lines 41-49; and Col. 26, lines 23-28.)

Miyatake is directed to a system for synthesizing speech from text. (See, e.g., Miyatake, Abstract.) Like Yamazaki, Miyatake also takes into account such speech-relevant parameters as volume, speed, and/or pitch. (See, e.g., Miyatake, Col. 2, lines 10-19.)

Hejna is directed to techniques for assessing "audience affinity" for "media works." (See, e.g., Hejna, Abstract.) But Hejna has nothing to do with speech processing. Not surprisingly, Hejna is entirely silent with regard to speech attributes or parameters, such as pitch, that pertain specifically to speech generally or speech processing particularly.

More fundamentally, none of the references teach or disclose the utilization of configuration parameters that relate to search cost functions in the context of speech processing. As already noted, Yamazaki and Miyatake only contemplate parameters specifically pertaining to speech, such as pitch, volume, and speed. However, neither of the references considers the types of function parameters that relate to statistical models. None contemplate parameters for functions commonly utilized for speech processing, such as those based upon a maximum-likelihood criterion for model, hidden Markov model, or any other statistical optimizing technique. Accordingly, none of the references provide for or utilize in any manner parameters for a search cost function. None of the references teach or suggest utilization of parameters that can be varied so as to adjust the search cost function according to an optimization criterion.

More particularly, none of the references, alone or in combination, teach or suggest providing configuration parameters that include one or more weighting values for adjusting a function. Specifically, none of the references teach or suggest providing one or more weights for adjusting one or more search functions, as explicitly recited in Claims 1, 13, and 25. None of the references teach or suggest providing a search function parameter that is used as a pitch cost weight, as also recited in Claims 1, 13, and 25. Likewise none of the references teach or suggest providing a search function parameter that corresponds to a duration cost weight, as also recited in Claims 1, 13, and 25. Indeed, as already noted, none of the references even remotely contemplate weights that adjust any type of function, let alone a search function.

Accordingly, not Yamazaki, Yamazaki 2, Miyatake, or Hejna – whether read alone or in combination – teach or suggest every feature recited in independent Claims 1, 13, and 25. Applicants respectfully submit, therefore, that Claims 1, 13, and 25 each define over the prior art. Applicants further respectfully submit that, whereas each of the

remaining claims depends from Claim 1, 13, or 25 while reciting additional features, each of the dependent claims likewise defines over the prior art.

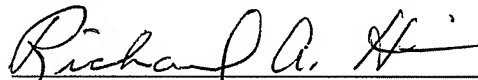
CONCLUSION

Applicants believe that this application is now in full condition for allowance, which action is respectfully requested. Applicants request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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Date: November 21, 2007



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